

**REMARKS**

Claims 1 and 6-19 are pending in this application. No amendment is made in this Response. It is believed that this Response is fully responsive to the Office Action dated **February 22, 2006**.

**Claims 1 and 6-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sekibata et al. (EP 0,523,333 A1) in view of Murray et al. (U.S. Patent No. 5,346,706), Owades et al. (U.S. Patent No. 4,827,034), Satoshi et al. (JP 05-068529) and Shimamura et al. (U.S. Patent No. 6,265,000). (Office action paragraphs no. 4-9)**

The rejection of claims 1 and 6-19 is respectfully traversed, and reconsideration of the rejection is requested.

Applicant again respectfully notes that “Satoshi” is the same person as “Sekibata”, and “Satoshi et al.” JP '529 is the publication of one of the priority applications for Sekibata EP '333. These two references appear to have similar disclosures, as Tables 1, 2 and 3 are the same in both references.

In paragraph no. 4 of the Office action, The Examiner cites Sekibata et al. EP '333 for disclosing a method for producing a non-alcoholic beverage and low alcohol beer, including addition of  $\alpha$ -glucosidase during the mashing process, citing page 3, lines 1-4 and 20-21. The Examiner states that Sekibata et al. does not disclose adjusting the concentration of original extract of wort to 12% to 13%. The Examiner cites Murray et al. for disclosing a malt beverage process comprising a step of preparing boiled malt wort at 12-20 degrees Plato, and the Examiner modifies Sekibata et

al. with this limitation from Murray et al., stating as motivation: “in order to provide a manufacturer with flexibility to produce low alcoholic or non-alcoholic malt beverages.”

Regarding the disclosures of Sekibata EP '333 with Murray et al., Applicant notes the following points.

First of all, as previously argued, Sekibata EP '333 discloses incorporating  $\alpha$ -glucosidase at the mashing process in ordinary beer production (page 3, line 10). Sekibata discloses that after the  $\alpha$ -glucosidase is incorporated into the mash in the mashing process, the remainder of the process is “conventional” (page 3, lines 38 and 54-56).

Sekibata et al. **does not explicitly state that the  $\alpha$ -glucosidase is added simultaneously with the ground malt to the brewing water.** The reference states on page 3, line 14, that: “The time of incorporating  $\alpha$ -glucosidase is not particularly limited but it is required to incorporate  $\alpha$ -glucosidase into the saccharifying mash having a mash extract concentration of 4.5% to 10% at the mashing process before fermentation.” The reference also states on page 3, lines 32-33, that “The  $\alpha$ -glucosidase may be added to the wort before fermentation at once or may be added in several portions.” This may indicate that the  $\alpha$ -glucosidase may be added after the ground malt.

In addition, Sekibata et al. **does not explicitly disclose conducting a heat treatment** on the mash. As noted above, after the mashing process, the rest of the process is “conventional.”

Moreover, with regard to the mash concentration, Sekibata generally discloses that the mash extract concentration is 4.5 to 10% “at the mashing process before fermentation,” and that above 10%, “the content of non-fermentable extract becomes high so that the smell and taste of wort is

appreciable and such is not preferred” (page 3, lines 12-19). That is, there is a clear general teaching of Sekibata et al. '333 **that a mash extract concentration above 10% is “not preferred.”**

Murray et al. discloses a cold contact process for the production of non-alcoholic malt beverages. The Examiner refers to Murray's disclosure of a boiled malt wort with a Plato value of 12 up to about 20 degrees (wt%), in column 2, lines 56-57. Murray then discloses that the wort is boiled to drive off up to 20% of its original weight of water, which raises the Plato value. The wort is then acidified (column 3, line 7), yeast is added (column 3, line 38), and the yeast and wort remain in contact for 10 to 30 hours (column 4, lines 32-55). The beverage is then aged (column 4, line 56 and ff.) The resulting beverage has a calculated original extract of 4 to 7 degrees Plato (column 5, lines 43-45).

In traversing the rejection, Applicant submits that Murray's method differs considerably from Sekibata's, and there is **no suggestion or motivation** for substituting Murray's wort into Sekibata's method. That is, no *prima facie* case of obviousness can be made using these two references.

Specifically, Sekibata et al. discloses a method for preparing non-alcohol or low-alcohol beer, which is characterized by adding  $\alpha$ -glucosidase to a mash at a mashing process in a conventional method for producing beer. In contrast, Murray et al. pertains to a **cold contact** process for the production of non-alcoholic malt beverages. A cold contact process is a method for preparing low-alcohol or non-alcohol beer, which accompanies a process where yeast in large amount is added to wort with relatively low concentration at low temperature, to produce a low amount of alcohol. Significantly, in the method of Murray et al., wort with **relatively high concentration** is used for

the purpose of taking advantage of the mass-action effects in aldehyde reduction during contact of the wort with the yeast and avoid the large amounts of water from being carried through processing (column 3, lines 1 to 5).

That is, Sekibata EP '333 teaches a method based on adding  $\alpha$ -glucosidase at the mashing process, in which the wort concentration is not more than 10%. Murray's **quite different, cold contact method** depends on a relatively high concentration of wort. There is no suggestion in Murray to use a relatively high wort concentration in a method other than a cold contact method. Moreover, Sekibata EP '333 clearly **teaches away** from using a high wort concentration. Therefore, there is no suggestion in either reference for the Examiner's proposed modification of Sekibata EP '333, and no *prima facie* case of obviousness can be made using these two references for claims 1, 8, 13 and 18, rejected in paragraph no. 4 of the Office action.

In paragraph no. 5 of the Office action, the Examiner cites Owades et al. with regard to claims 6 and 7. Owades et al. is cited for the disclosure in column 1, lines 18-22, of mixing together of malt with or without cereal adjuncts in hot water, in the conventional process. Applicant argues, however, that the further combination of Owades et al. with Sekibata et al. and Murray et al. does not provide a motivation for the proposed modification of Sekibata et al. with Murray et al., as discussed above.

In paragraph no. 6 of the Office action, with regard to claims 9, 10 and 15, the Examiner states that Sekibata et al. EP '333 does not disclose "adding  $\alpha$ -glucosidase to the fermentation process and reducing acetic acid concentration with the addition of  $\alpha$ -glucosidase," but cites the abstract of

“Satoshi et al.” JP '529 for this disclosure.

In regard to this rejection, Applicant first notes that claim 9 does not recite any particular result from the addition of the  $\alpha$ -glucosidase. Claim 15 recites a limitation regarding the “real degree of fermentation,” but does not recite anything about acetic acid. Only claim 10 recites a result regarding the acetic acid.

Moreover, the abstract of JP '529 does not appear to mention acetic acid. In addition, as Applicant has noted, the disclosure of JP '529 appears to be fully contained in Sekibata et al. It is unclear what additional disclosure is being added by combining JP '529 with Sekibata et al. EP '333. Applicant submits that the further citation of JP '529 does not provide a motivation for the combination of Sekibata et al. EP '333 with Murray et al.

In paragraph no. 7 of the Office action, with regard to claims 11 and 16, the Examiner cites Owades et al. for teaching use of brewer's yeast. As argued above, Applicant submits that the further combination of Owades et al. with Sekibata et al. and Murray et al. does not provide a motivation for the proposed modification of Sekibata et al. with Murray et al.

In paragraph no. 8 of the Office action, with regard to claims 12 and 17, the Examiner cites Shimamura et al. (column 1, lines 41-43) for the use of sake yeast or wine yeast. The Examiner refers to the use of sake yeast in Example 6 in column 7, line 49, and wine yeast in column 7, line 67.

However, Applicant submits that the method of Sekibata et al. cannot be combined with the method of Shimamura et al. In the method of Sekibata et al.,  $\alpha$ -glucosidase is incorporated at a

mashing process, thereby the amount of non-fermentable sugars is increased and in contrast the amount of fermentable sugars is decreased. On the other hand, Shimamura et al. discloses a method for preparing a novel beer-like sparkling alcoholic beverage using a “yeast-containing output from production of an alcoholic beverage other than beer” (for example, wine or sake). For example, in Example 6 (column 7, line 48) of Shimamura et al., this is “a moto, which had been prepared using a sake yeast in accordance with the “yamahai process” in Example 4. This can be seen to be prepared from a mixture of steamed rice and water. In Example 7, the “yeast-containing output” is “a wine must, which had been obtained by inoculating grape juice with a commercially sold wine yeast and fermenting the grape juice ....” (See also column 5, lines 24-38). Shimamura specifically indicates that these are added “in order to impart the characteristic flavor” [of the sake or wine].

That is, Shimamura discloses use of sake or wine yeasts to ferment steamed rice mixture or grape juice. Shimamura does not disclose adding these yeasts by themselves to a wort, but only in the “yeast-containing output.” Therefore, there is no suggestion in Shimamura to modify Sekibata, where the addition of such a “yeast-containing output” would clearly be inconsistent with Sekibata's process.

Moreover, the methods of Shimamura comprise a step of adding koji to a malt in water, so that a sufficient high amount of fermentable sugars exist for a fermentation using a sake yeast or wine yeast. In the methods of Sekibata, however, a state where fermentable sugars are very low in amount is purposely arranged. Therefore, even if a sake yeast or wine yeast is used in the methods of Sekibata, the effects or advantages intended by Shimamura would not be obtained. For this reason

there is no suggestion or motivation in Shimamura to modify Sekibata.

Finally, in paragraph no. 9 of the Office action, with regard to claims 14 and 19, the Examiner cites Sekibata et al. on page 3, lines 28-30, regarding "taking into account the concentration of fermentable sugar in the mash." Applicant again submits that there is no suggestion in Sekibata et al. for the proposed combination with Murray et al.

Applicant therefore submits that claims 1 and 6-19 are not anticipated by, and are not obvious over Sekibata et al. (EP 0,523,333 A1), Murray et al. (U.S. Patent No. 5,346,706), Owades et al. (U.S. Patent No. 4,827,034), Satoshi et al. (JP 05-068529) and Shimamura et al. (U.S. Patent No. 6,265,000), taken separately or in combination.


If, for any reason, it is felt that this application is not now in condition for allowance, the Examiner is requested to contact Applicant's undersigned agent at the telephone number indicated below to arrange for an interview to expedite the disposition of this case.

U.S. Patent Application Serial No. 10/612,407  
Reply to final OA dated February 22, 2006

In the event that this paper is not timely filed, Applicant respectfully petitions for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

ARMSTRONG, KRATZ, QUINTOS,  
HANSON & BROOKS, LLP

  
Daniel A. Geselowitz, Ph.D.  
Agent for Applicant  
Reg. No. 42,573

DAG/xl  
Atty. Docket No. 030806  
Suite 1000  
1725 K Street, N.W.  
Washington, D.C. 20006  
(202) 659-2930



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